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10/551,412	09/05/2006	Georg Bogner	5367-192PUS	5613

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/551,412	BOGNER ET AL.	
	Examiner	Art Unit	
	MEGHAN K. DUNWIDDIE	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/29/05 & 09/05/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is a Non-Final Rejection in response to the application filed on September 5, 2006 by **Bogner** et al.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on September 29, 2005 and September 5, 2006 are in compliance with the provisions of 37 CFR 1.97, and accordingly, the information disclosure statements have been considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-7, 29, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Alston** (US 5174649) in view of **Harbers** et al. (US 6406172).

5. Regarding Claim 1, **Alston** shows a headlight having a multitude of headlight elements, wherein each of the headlight elements comprises:

- At least one semiconductor chip which emits electromagnetic radiation and has a chip output surface through which electromagnetic radiation is emitted [Figure 1A: (101 and 102)];
- A primary optics element, which has a light input and a light output and which reduces the divergence of the light which is incident through the light input, with the light being at least part of the electromagnetic radiation and/or at least part of a secondary radiation which is produced from the electromagnetic radiation emitted from said semiconductor chip [Figure 1A: (106)].

6. Regarding Claim 2, **Alston** shows:

- A beam angle of a light beam which is emitted from the light output of the primary optics element is between 0 to 60 degrees, preferably between 0 and 40 degrees, particularly preferably between 0 and 20 degrees, with the limits in each case being included [See column 3 lines 68 -- column 4 line 1-2].

7. Regarding Claim 3, **Alston** shows:

- At least parts of the headlight outputs in at least one group are packed densely, and are preferably arranged without any gaps [Figure 1B].

8. Regarding Claim 4, **Alston** shows:

- The semiconductor chips are at least partially or at least in subgroups arranged like a matrix [Figure 3B: (101-104)].

9. Regarding Claim 7, **Alston** shows:

- The light output from the corresponding primary optics element is in each case the headlight element output [Figure 1B: (6 and 7)].

10. Regarding Claim 29, **Alston** shows:

- The semiconductor chip is a diode which emits electromagnetic radiation, preferably a diode which emits electromagnetic radiation and has and at least approximately Lambert emission characteristic, particular preferably being a thin-film light-emitting diode [Figure 1A: (101 and 102)].

11. Regarding Claim 30, **Alston** shows:

- The diode is followed in the emission direction by a luminescence conversion material, which converts the wavelength of at least a portion of the electromagnetic radiation emitted from it [Figure 1A: (111-112)].

12. Regarding Claim 31, **Alston** shows:

- The lighting elements are follower in their main emission direction by secondary optics, by means of which the light emitted from them experiences a further reduction in divergence and/or is mixed [Figure 1B].

13. Regarding Claim 32, **Alston** shows:

- The secondary optics are a condenser lens [Figure 1B: (110)].

14. Regarding Claim 33, **Alston** shows:

- The primary optics elements are formed integrally with one another [Figure 1A: (106)].

15. **Alston** does not show:

- At least one headlight element output, which emits a part of the headlight light from the headlight element, wherein at least some of the headlight element outputs are arranged in at least two groups in such a way that (a) the arrangement of at least one of the groups and/or (b) at least one overall arrangement of headlight element outputs of multiple groups corresponds essentially to a desired emission characteristic of the headlight, in that, in particular, it has a shape which corresponds essentially to the cross-sectional shape of a desired headlight beam, wherein the semiconductor chips which

belong to the headlight element outputs of one group can each be operated independently of other semiconductor chips.

16. **Harbers** et al. teaches:

- At least one headlight element output, which emits a part of the headlight light from the headlight element, wherein at least some of the headlight element outputs are arranged in at least two groups in such a way that (a) the arrangement of at least one of the groups and/or (b) at least one overall arrangement of headlight element outputs of multiple groups corresponds essentially to a desired emission characteristic of the headlight, in that, in particular, it has a shape which corresponds essentially to the cross-sectional shape of a desired headlight beam, wherein the semiconductor chips which belong to the headlight element outputs of one group can each be operated independently of other semiconductor chips [Figure 1B: (2-7)].

17. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the lamp of **Alston** with a headlight element output as taught by **Harbers** et al. for the purpose and advantage of having a headlight for use within a motor vehicle.

18. Regarding Claims 5 and 6 **Alston** shows the claimed invention as cited above, but does not specifically teach a headlight intended for use in a motor vehicle as specified in Claims 5 and 6.

19. Regarding Claim 5, **Harbers** et al. teaches:

- The headlight is intended for use in a motor vehicle and in that the arrangement of at least one first group of headlight element outputs and/or of multiple first groups together corresponds essentially to an emission characteristic of a lower beam headlamp, in that, in particular, it corresponds essentially to the cross-sectional shape of a light beam of a lower beam headlamp, and in that at least one second group and/or multiple second groups is or are arranged together in such a way that, together with the arrangement of the first group or of multiple first groups it or they correspond together or on its or their own essentially to the emission characteristic of a upper beam headlamp, in that it corresponds in particular essentially to the cross-sectional shape of a light beam of a upper beam headlamp [Figure 1B: (2 and 3) and Figure 2].

20. Regarding Claim 6, **Harbers** et al. teaches:

- The headlight has multiple first and second groups, wherein only semiconductor chips in some of the groups are in each case operated as a function of the steering angle of the motor vehicle when using the headlight elements in the first and/or the second groups, in such a way that the light beam which is emitted

from the headlight at least partially follows the direction of travel of the motor vehicle [Figure 1B: (2 and 3) and Figure 2].

21. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the lamp of **Alston** with a headlight as taught by **Harbers** et al. for the purpose and advantage of having a headlight for use within a motor vehicle.

22. Claims 8-26, 28, 38-44, 46-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Alston** (US 5174649) and **Harbers** et al. (US 6406172) as applied to claim 1 above, and further in view of **Hed** (US 5727108).

23. Regarding Claims 8-24 and 25-28, **Alston** and **Harbers** et al. shows the claimed invention as cited above, but do not specifically teach the details of Claims 8-21 and 25-28.

24. Regarding Claim 8, **Hed** teaches:

- Each primary optics element is followed by an optical waveguide, preferably a glass fiber or a bundle with multiple glass fibers, with a light input surface and a light output surface, in the emission direction of the primary optics, into which at least the majority of the light which is emitted from the light output of the respective primary optics element is passed through the light input surface [Figure 9: (93)].

25. Regarding Claim 9, **Hed** shows:

- The light output surface of the optical waveguide is in each case the headlight element output [See column 14 lines 9-10 in reference to Figure 9: (109-112)].

26. Regarding Claim 10, **Hed** shows:

- The light input surface of each of the optical waveguides is directly adjacent to the light output of the corresponding primary optics element [Figure 9: (93 and 92)].

27. Regarding Claim 11, **Hed** shows:

- The optical waveguide is in each case connected by means of a connecting plug to the corresponding primary optics element, and/or in that the optical waveguide is in each case fitted with the light input surface, by means of an adhesive, to the light output of the corresponding primary optics element, and is connected to the primary optics element [Figure 9: (93 and 92)].

28. Regarding Claim 12, **Hed** shows:

- The optical waveguide is in each case connected by means of a connecting plug to the corresponding primary optics element, and in that the multitude of connecting plugs are connected to one another, or are formed integrally [Figure 9: (93 and 92)].

29. Regarding Claim 13, **Hed** shows:

- The optical waveguide is in each case connected by means of a connecting plug to the corresponding primary optics element, and in that the connecting plug is formed integrally with the primary optics element [Figure 9: (93 and 92)].

30. Regarding Claim 14, **Hed** shows:

- The optical waveguide is formed integrally with the corresponding primary optics element [Figure 9: (93 and 92)].

31. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** and **Harpers** et al. with an optical waveguide as taught by **Hed** for the purpose and advantage of directing the light emitted from the light sources in a particular direction, such as towards the headlight exiting surface.

32. Regarding Claim 15, **Hed** shows:

- The light input has a light input surface or a light input opening, whose size is less than or equal to twice the chip output area, and is preferably less than or equal to 1.5 times the chip output area [Figure 9: (91 and input surface of 92)].

33. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** and **Harpers** et al. with a light input surface

as taught by **Hed** for the purpose and advantage of concentrating the light emitted by the light sources.

34. Regarding Claim 16, **Hed** shows:

- The primary optics element is in each case an optical concentrator, with the light input being the actual concentrator output, so that light passes through this in the opposite direction compared with the normal use of a concentrator for focusing, and is thus not concentrated, but leaves the concentrator through the light output with reduced divergence [Figure 1: (10)].

35. Regarding Claim 17, **Hed** shows:

- The primary optics element is a CPC, CEC, or CHC-like concentrator [Figure 1: (10)].

36. Regarding Claim 18, **Hed** shows:

- The concentrator has side walls which connect the light input to the light output and are designed in such a way that direct connecting lines which run on the side walls run essentially in a straight line between the light input and the light output [Figure 1: (10)].

37. Regarding Claim 19, **Hed** shows:

- The concentrator has a cross-sectional surface in the form of a regular polygon, preferably a square cross-sectional surface, in a region on the side of the light input, and in that it likewise has a cross-sectional surface in the form of a regular polygon, preferably a triangular, quadrilateral, hexagonal or octagonal cross-sectional surface, in a region on the side of the light output [Figure 4: (30) and Figure 5: (50)].

38. Regarding Claim 20, **Hed** shows:

- The concentrator has a base body which defines a cavity, whose internal wall is reflective for the light emitted from the semiconductor chip and/or whose internal wall is essentially provided with a layer or layer sequence, preferably with a metallic layer, which is reflective for the light emitted from the semiconductor chip [Figure 1: (17)].

39. Regarding Claim 21, **Hed** shows:

- The concentrator is a dielectric concentrator, whose base body is a solid body which is composed of a dielectric material with a suitable refractive index such that light which is injected via the light input is reflected in this by total internal reflection on the side boundary surface of the solid body, which connects the light input to the light output, to the external atmosphere [See column 1 lines 43-44].

40. Regarding Claim 22, **Hed** shows:

- The light output is a boundary surface of the solid body that is curved like a lens [Figure 9].

41. Regarding Claim 23, **Hed** shows:

- The light output is curved in the form of an aspherical lens [Figure 9].

42. Regarding Claim 24, **Hed** shows:

- The dielectric concentrator is provided at least partly with a layer or layer sequence, preferably with a metallic layer, which is reflective for the light which is emitted from the respective semiconductor chip [Figure 1: (17)].

43. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** and **Harpers** et al. with an optical concentrator as taught by **Hed** for the purpose and advantage of concentrating and further directing the emitted light from the light sources.

44. Regarding Claim 25, **Hed** shows:

- The concentrator is arranged downstream from the semiconductor chip in its main emission direction, and in that there is a gap between the chip output surface and the light input of the concentrator [Figure 9: (91, 92, and gap between 91 and 92)].

45. Regarding Claim 26, **Hed** shows:

- The gap is substantially free of solid or viscous materials [Figure 9: (between 91 and 92)].

46. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** and **Harpers** et al. with a gap as taught by **Hed** for the purpose and advantage of making it possible for the light emitted by the light sources to effortlessly enter the light input of the concentrator.

47. Regarding Claim 28, **Hed** shows:

- The base body of the concentrator is composed of a transparent glass, a transparent crystal or a transparent plastic, and in that it is preferably manufactured using an injection-molding and/or transfer-molding process [See column 3 lines 10-19].

48. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** and **Harpers** et al. with an optical concentrator as taught by **Hed** for the purpose and advantage of concentrating and further directing the emitted light from the light sources.

49. Regarding Claim 38, **Alston** shows a headlight element comprising:

- At least one semiconductor chip which emits electromagnetic radiation and has a chip output surface through which electromagnetic radiation is emitted [Figure 1A: (101 and 102)];
- A primary optics element, which has a light input and a light output and which reduces the divergence of the light which is incident through the light input, with the light being at least part of the electromagnetic radiation and/or at least part of a secondary radiation which is produced from the electromagnetic radiation [Figure 1A: (106)].

50. **Alston** does not show:

- At least one headlight element output, from which a part of the headlight light is emitted from the headlight element.

51. **Harbers** et al. teaches:

- At least one headlight element output, from which a part of the headlight light is emitted from the headlight element [Figure 1B: (2 and 3)].

52. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** with a headlight element output as taught by **Harbers** et al. for the purpose and advantage of illuminating a roadway or surface in front of a vehicle.

53. **Alston** and **Harbers** et al. do not teach:

- The primary optics element comprises a CPC, CEC or CHC-like optical concentrator, with the light input being the actual concentrator output, so that light passes through said concentrator in an opposite direction compared with normal use of a concentrator for focusing, and is thus not concentrated, but leaves the concentrator through the light output with reduced divergence.

54. However, **Hed** teaches:

- The primary optics element comprises a CPC, CEC or CHC-like optical concentrator, with the light input being the actual concentrator output, so that light passes through said concentrator in an opposite direction compared with normal use of a concentrator for focusing, and is thus not concentrated, but leaves the concentrator through the light output with reduced divergence [Figure 1: (10)].

55. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** and **Harpers** et al. with an optical concentrator as taught by **Hed** for the purpose and advantage of concentrating and further directing the emitted light from the light sources.

56. Regarding Claims 39-41, 43, 44, 46, and 48-50 **Alston** and **Harpers** et al. show the claimed invention as cited above, but do not specifically teach the details of Claims 39-41, 43, 44, 46, and 48-50.

57. Regarding Claim 39, **Hed** teaches:

- The concentrator has a cross-sectional surface in the form of a regular polygon, preferably a square cross-sectional surface, in a region on the side of the light input, and in that it likewise has a cross-sectional surface in the form of a regular polygon, preferably a triangular, quadrilateral, hexagonal or octagonal cross-sectional surface, in a region on the side of the light output [Figure 4: (30) and Figure 5: (50)].

58. Regarding Claim 40, **Hed** shows:

- The concentrator has a base body which defines a cavity, whose internal wall is reflective for the light emitted from the semiconductor chip and/or whose internal wall is essentially provided with a layer or layer sequence, preferably with a metallic layer, which is reflective for the light emitted from the semiconductor chip [Figure 1: (17)].

59. Regarding Claim 41, **Hed** shows:

- The concentrator is a dielectric concentrator, whose base body is a solid body which is composed of a dielectric material with a suitable refractive index such

that light which is injected via the light input is reflected in this by total internal reflection on the side boundary surface of the solid body, which connects the light input to the light output, to the external atmosphere [See column 1 lines 43-44].

60. Regarding Claim 43, **Hed** shows:

- The concentrator is arranged downstream from the semiconductor chip in its main emission direction, and in that there is a gap between the chip output surface and the light input of the concentrator [Figure 9: (91, 92, and gap between 91 and 92)].

61. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** and **Harpers** et al. with an optical concentrator as taught by **Hed** for the purpose and advantage of concentrating and further directing the emitted light from the light sources.

62. Regarding Claim 44, **Hed** shows:

- The gap is substantially free of solid or viscous materials [Figure 9: (between 91 and 92)].

63. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** and **Harpers** et al. with a gap as taught by

Hed for the purpose and advantage of making it possible for the light emitted by the light sources to effortlessly enter the light input of the concentrator.

64. Regarding Claim 46, **Hed** shows:

- The base body of the concentrator is composed of a transparent glass, a transparent crystal or a transparent plastic, and in that it is preferably manufactured using an injection-molding and/or transfer-molding process [See column 3 lines 10-19].

65. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** and **Harpers** et al. with the concentrator as taught by **Hed** for the purpose and advantage of using materials that are easily and costly when produced.

66. Regarding Claim 47, **Alston** shows:

- The light output from the corresponding primary optics element is in each case the headlight element output [Figure 1B: (6 and 7)].

67. Regarding Claim 48, **Hed** teaches:

- Each primary optics element is followed by an optical waveguide, preferably a glass fiber or a bundle with multiple glass fibers, with a light input surface and a light output surface, in the emission direction of the primary optics, into which at least the majority of the light which is emitted from the light output of the

respective primary optics element is passed through the light input surface [Figure 9: (93)].

68. Regarding Claim 49, **Hed** shows:

- The light output surface of the optical waveguide is in each case the headlight element output [See column 14 lines 9-10 in reference to Figure 9: (109-112)].

69. Regarding Claim 50, **Hed** shows:

- The light input surface of each of the optical waveguides is directly adjacent to the light output of the corresponding primary optics element [Figure 9: (93 and 92)].

70. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** and **Harpers** et al. with an optical waveguide as taught by **Hed** for the purpose and advantage of directing the light emitted from the light sources in a particular direction, such as towards the headlight exiting surface.

71. Claims 27, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Alston** (US 5174649), **Harbers** et al. (US 6406172), and **Hed** (US 5727108) as applied to claim 16 and 38 above, and further in view of **Thominet** (US 6565247).

72. Regarding Claims 27 and 45, **Alston**, **Harbers** et al., and **Hed** show the claimed invention as cited above, but do not specifically teach the details of the headlight element in Claims 27 and 45.

73. Regarding Claims 27 and 45, **Thominet** teaches:

- The headlight element has one or more reflector elements which are arranged in such a way, and/or are of such a shape that some of the light beams which do not pass directly from the semiconductor chip into the concentrator are reflected multiple times on it and are deflected at a smaller angel, measured against the main emission direction of the semiconductor chip, to the light input of the concentrator [Figures 5-7: (45)].

74. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston**, **Harbers** et al. and **Hed** with reflector elements as taught by **Thominet** for the purpose and advantage of reflecting the emitted light towards an exit surface.

75. Claims 34-37 rejected under 35 U.S.C. 103(a) as being unpatentable over **Alston** (US 5174649) and **Harbers** et al. (US 6406172) as applied to claim 1 above, and further in view of **Thominet** (US 6565247).

76. Regarding Claims 34-37, **Alston** and **Harbers** et al. show the claimed invention as cited above, but do not specifically teach the details of Claims 34-37.

77. Regarding Claim 34, **Thominet** teaches:

- The semiconductor chips are arranged on in each one mount, on which they are in each case surrounded by a frame to or in which the primary optics element is fitted and by which it is held, and/or by which it is adjusted relative to the chip output surface [Figure 5].

78. Regarding Claim 35, **Thominet** teaches:

- At least some of the mounts and/or the mount and the frame in each case are formed integrally [Figure 5: (42 and 45)].

79. Regarding Claim 36, **Thominet** teaches:

- The mounts of multiple semiconductor diodes are arranged alongside one another, like rows, in at least one row [Figure 5: (42 and 40)].

80. Regarding Claim 37, **Thominet** teaches:

- The internal surface of the frame and/or free surfaces of that surface of the mount which faces the emission direction of the headlight is or a re reflective for light which is emitted from the respective semiconductor chip, and/or is or are at least partially provided with a layer or a layer sequence, preferably with a metallic

layer, which is reflective for the light which is emitted from the respective semiconductor chip [See column 5 lines 42-45 in reference to Figure 6: (45)].

81. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the headlight of **Alston** and **Harbers** et al. with semiconductor ships, mounts, and frames as taught by **Thominet** for the purpose and advantage of housing, holding, and protecting the semiconductor device and directing the light emitted by the semiconductor device outwardly.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEGHAN K. DUNWIDDIE whose telephone number is (571)272-8543. The examiner can normally be reached on Monday through Friday 8 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571)272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sandra L. O'Shea/
Supervisory Patent Examiner, Art Unit 2875

MKD